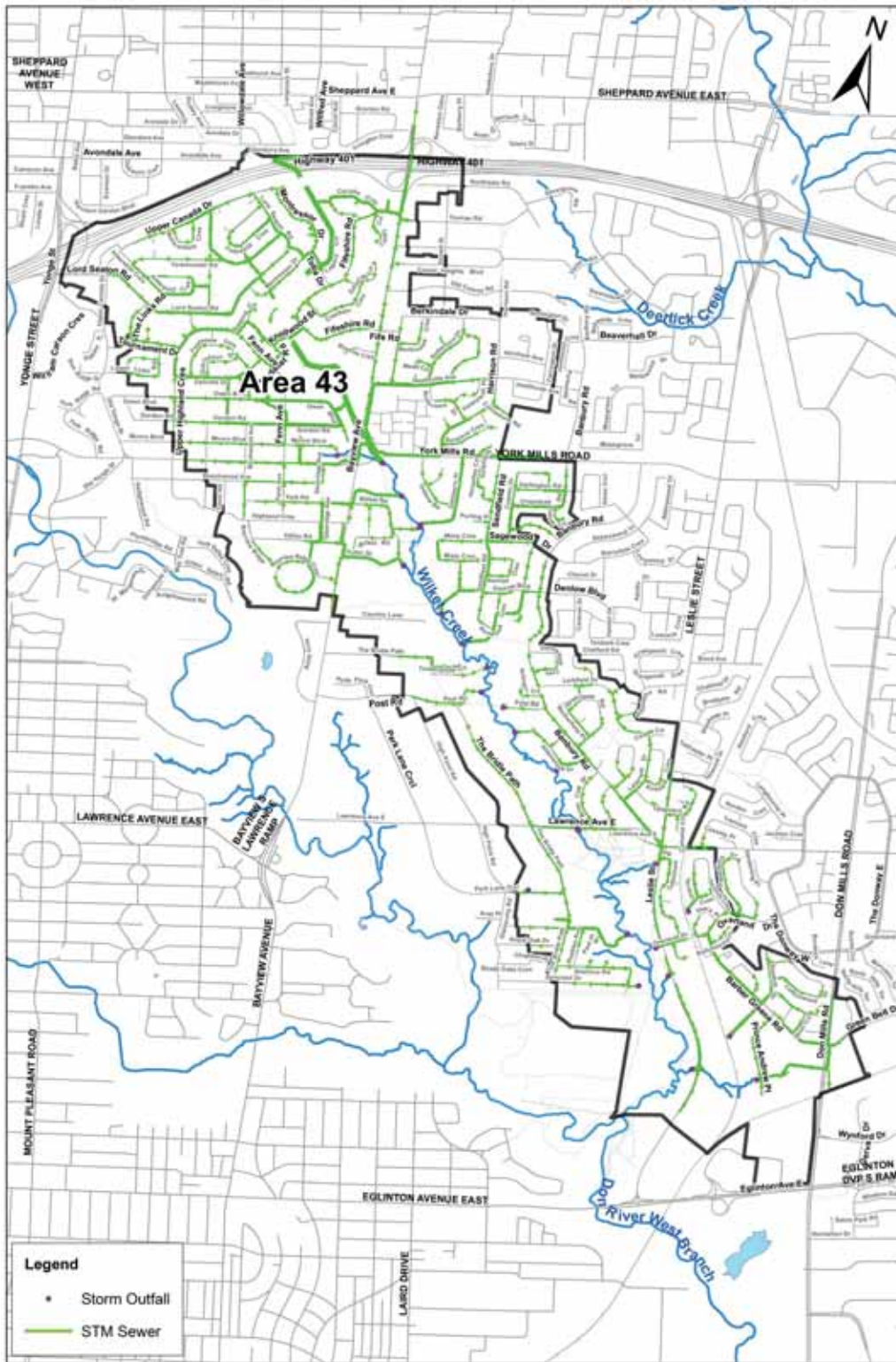
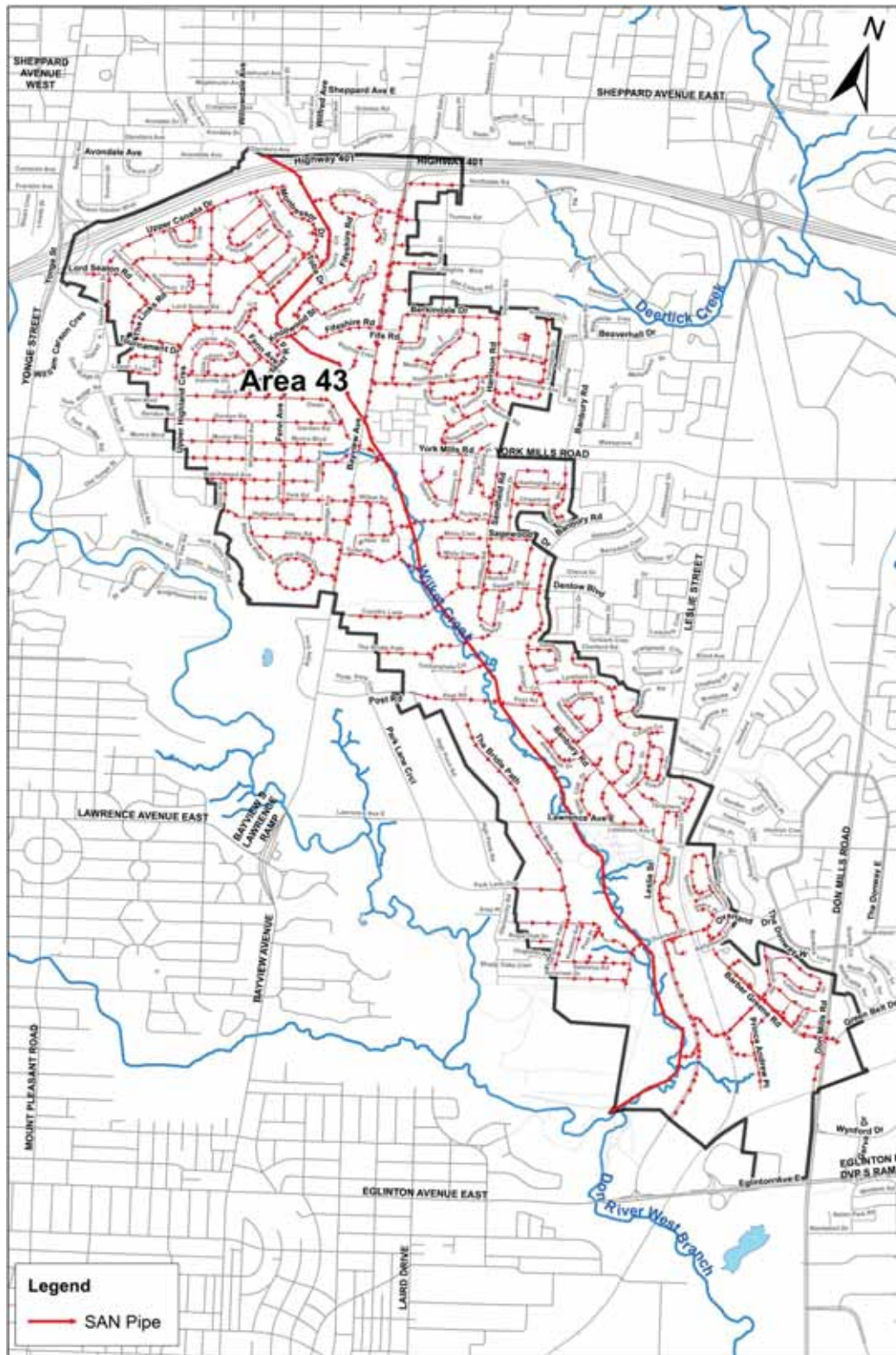


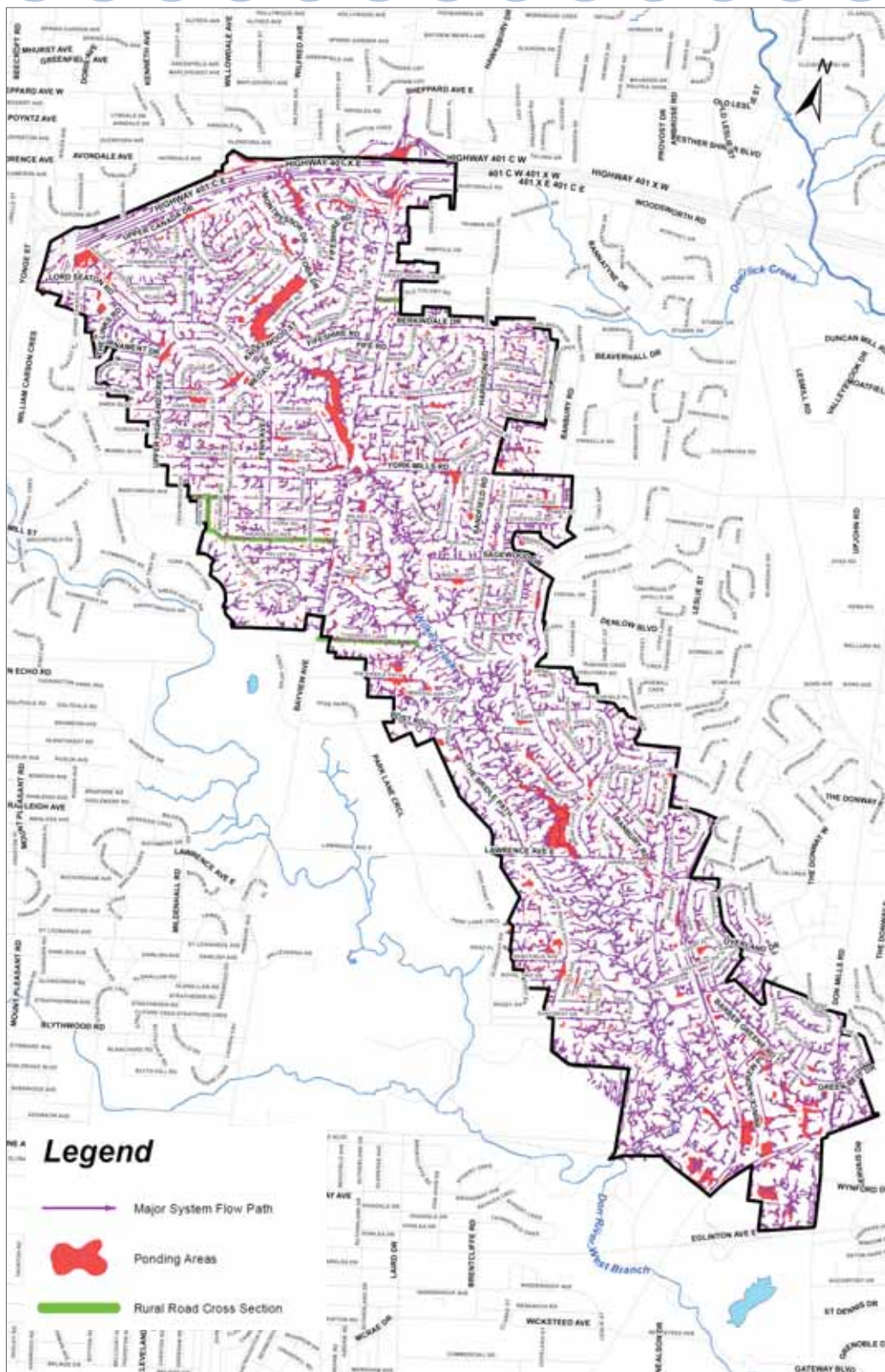
Study Area Map – Storm Sewer System



Study Area Map – Sanitary Sewer System

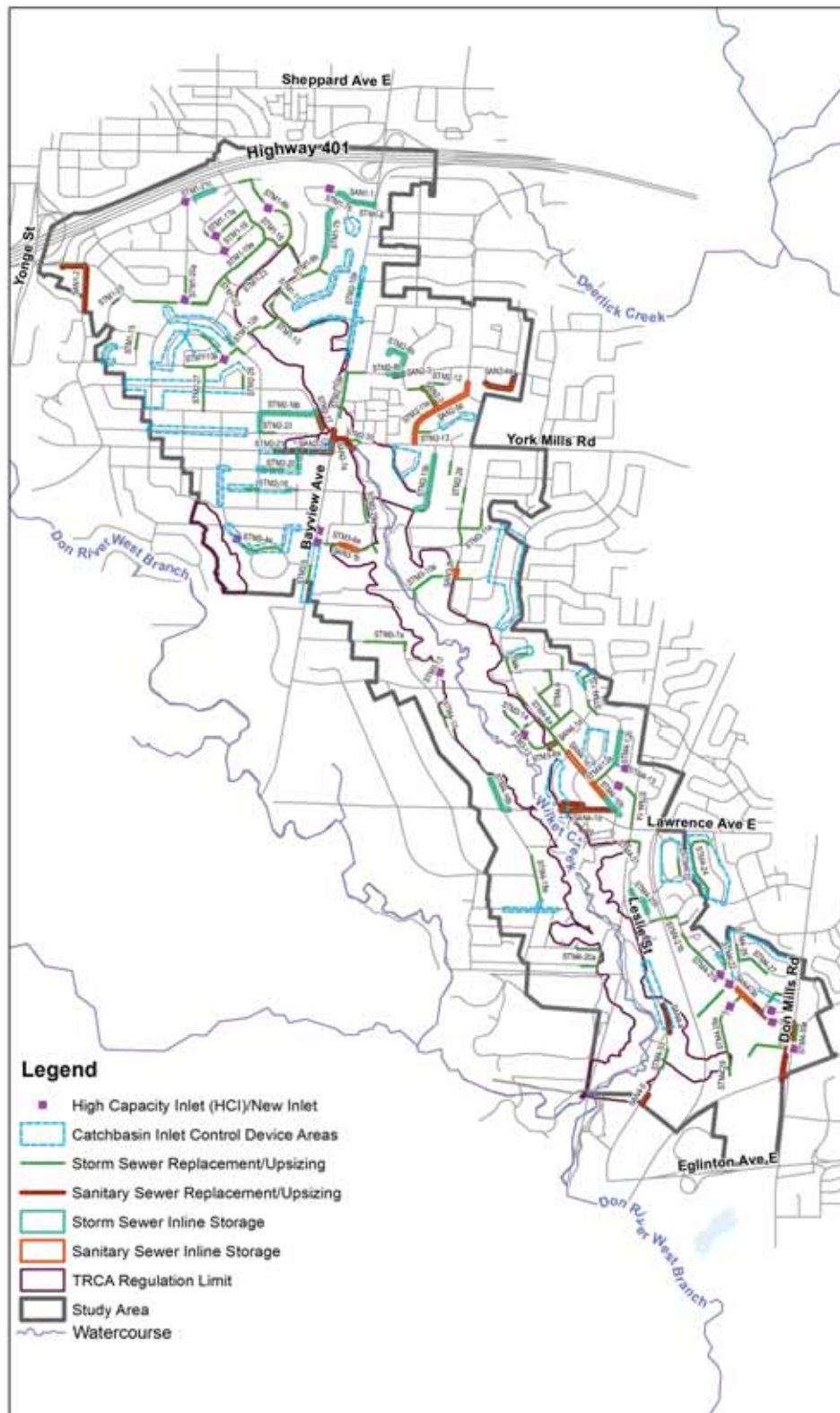


Study Area Map – Overland Flow

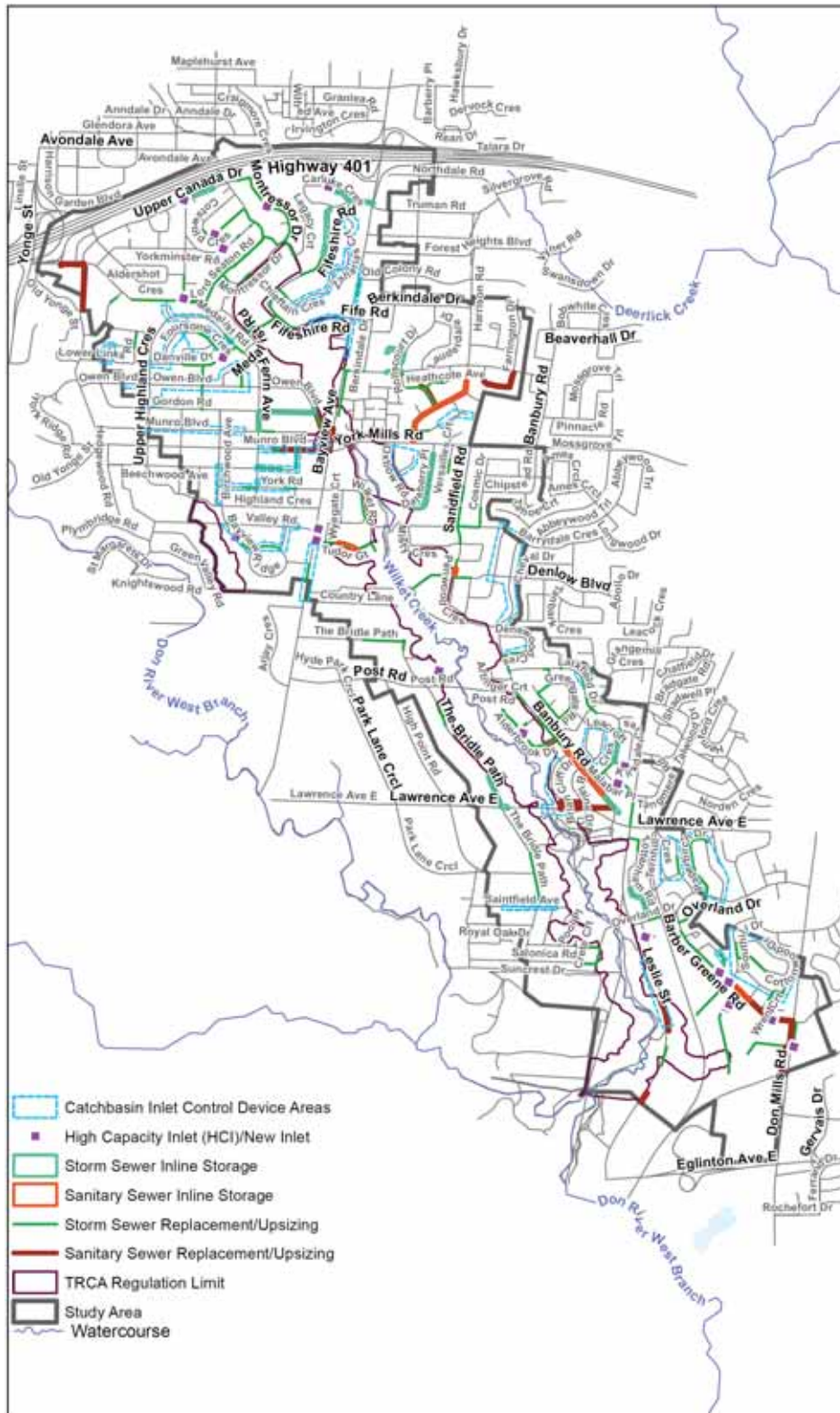


Solutions Map

Please refer to the Solutions Table and you will find the Solution ID and a brief description of the project



Solutions Map



Solutions Table

Solution ID	Description
SAN1-1	43 m of 300 mm SAN on Fifehire Rd
SAN1-2	Lower sanitary sewers (multiple branches) on Lord Seaton Rd and Upper Canada Dr. The existing sewer has adequate hydraulic capacity, but it is a shallow pipe. Recommendation is to reconstruct the pipe at a lower elevation. This is the only feasible solution to correct the shallow pipe issue; the only other alternative is the do nothing alternative.
SAN1-3b	Do nothing. There are no connections to the sanitary sewer, and no history of flooding in the area.
STM1-6b	172 m of 600mm, 295 m of 750 mm, and 72 m of 900mm STM sewer on Montessor Drive, and high capacity inlet at sag location
STM1-7b	Inline storage – 236 m of 1800 mm on Fifehire Road and 243 m of 2100 mm on Carluke Crescent
STM1-8	133 m of 1200 mm STM on Fifehire Road
STM1-9b	A new 90 m of 600 mm STM diversion sewers on Toba Drive. 52 m of 450 mm, and 213 m of 1200 mm STM on Fifehire Road
STM1-10	57 m of 600 mm and 79 m of 900 mm STM sewers, and ICD on 7 existing CBs on Fifehire Road
STM1-11	62 m of 900 mm STM sewers on Chieftain Crescent and ICD on 13 existing CBs on Zaharias Court
STM1-12a	52 m of 450 mm, and 213 m of 1200 mm STM sewer on Fenn Avenue and Knollwood Street and ICD on 15 existing CBs
STM1-13a	103 m of 450 mm, 85 m of 600 mm, 12 m of 1200 mm, 67 m of 1500 mm, 73 m of 2000 mm and 113 m of 2400mm STM sewers on Foursome Crescent, Danville Drive and Seneca Street. Additional inlet capacity at sag location, and ICD on 13 existing CBs on Foursome Crescent
STM1-14	ICD on 16 existing CBs on Foursome Crescent
STM1-15	93 m of 525 mm STM sewers on Chieftain Crescent and ICD on 8 existing CBs on Lower Link Road
STM1-16	93 m of 1050 mm, 241 m of 1800 mm, and 103 m of 2400 mm STM sewers on Masters Road
STM1-17a	21 m of 450 mm, 38 m of 600 mm, 38 m of 900 mm and 228 m of 1050 mm STM sewers and high capacity inlet at sag location on Cotswold Crescent
STM1-18	High capacity inlet at sag location on York Minister Road. A new manhole near York Minister Road and Masters Road. 25 m of 600 mm STM sewer connecting existing 300 STM sewer to existing 1050 mm STM sewer.
STM1-19a	305 m of 600 mm and 129 m of 750 mm STM sewer on Lord Seaton Road, and new 507 m of 1200 mm STM sewers
STM1-20a	133 m of 750 mm, 23 m of 900 mm and 120 m of 1200 mm STM sewers on Fairmeadow Avenue and Lord Seaton Road, and high capacity inlet at sag location
STM1-21c	Inline storage – 173 m of 1500 mm inline storage on Upper Canada Drive
STM1-22	A new 46 m of 450 mm STM diversion sewers on Montessor Drive
STM1-23	44 m of 600 mm and 13m of 1500 mm STM sewers on Montessor Drive
STM1-24	ICD on 5 existing CBs on Caldly Court
STM1-25	45 m of 900 mm STM sewer on the Links Road
SAN2-1a	303 m of 375 mm SAN on Owen Blvd/Bayview Ave/Easement
SAN2-2	394 m of 300-375 mm SAN on York Mills Rd/Bayview Ave
SAN2-3	53 m of 250 mm SAN on Heathcote Ave and 153 m of 375 mm SAN on Rollscourt Dr
SAN2-4a	240 m of 450 mm SAN on Dempsey Cres
SAN2-5d	487 m of 1950mm inline storage on Harrison Rd, 101 m of 250 mm SAN on Sandfield Rd/Misty Cres
SAN2-6b	Do nothing
STM2-8b	Inline Storage – 162 m of 1200 mm inline storage on Mead Court and 79 m of 1050 STM sewer on Heathcote Ave
STM2-9b	Do nothing within the easement near Heathcote Avenue and Berkindale Drive
STM2-10a	STM 2-10a (Alternative A): 97 m of 375 mm and 369 m of 1200 mm STM sewers on Bayview Avenue, and ICD on 35 existing CBs
STM2-11a	331 m of 1050 mm and 156 m of 2000 mm STM sewers on Rollscourt Drive and Harrison Road, and additional inlet capacity at sag location on Rollscourt Drive
STM2-12	118 m of 450 mm STM sewers on Honeywell Place
STM2-13	89 m of 1800 mm STM sewers on Sulgrave Crescent
STM2-15b	Inline Storage – 328 m of 1200 mm inline storage on Daleberry Place and ICD on 8 existing CBs on Oxbow Road
STM2-16b	Inline Storage – 420 m of 1800 mm inline storage on Gordon Road and Fenn Ave
STM2-17	114 m of 2500 mm x 5100 mm STM sewers on Owen Boulevard
STM2-18	Lower STM sewer on Owen Boulevard
STM2-19	ICD on 8 existing CBs on York Mills Road. High minor loss was identified in hydraulic analysis. Headloss coefficients were assigned by InfoWorks Inference tool in model development. These coefficients were manually adjusted at this location to reduce the minor loss. The conditions of impacted manholes need to be verified before implementing this alternative.
STM2-20	137 m of 525 mm, 92 m of 750 mm and 14m of 900 mm STM sewers on Beechwood Ave and Glenridge Avenue, and ICD on 21 existing CBs
STM2-21	31 m of 750 mm STM sewers on York Mills Road
STM2-22	ICD on 13 existing CBs on York Road
STM2-23	67 m of 450 mm STM sewers on Munro Boulevard
STM2-24	ICD on 19 existing CBs on Munro Boulevard
STM2-25	ICD on 31 existing CBs on Owen Boulevard
STM2-26	72 m of 600 mm STM sewers
STM2-27	120 m of 2250 mm and 124 m of 2400 mm STM sewers on Seneca Street
STM2-28	86 m of 600 mm and 177 m of 1200 mm STM sewers on Versailles Court and Sandfield Road
STM2-28a	41 m of 1050 mm and 108m of 1500 mm STM sewers on Wilket Road
STM2-30	24 m of 900 mm and 33m of 1200 mm STM sewers on York Mills Road
SAN3-1b	66 m of 900mm inline storage on Tudor Ct
SAN3-2b	89 m of 1050mm inline storage on Sandfield Rd
STM3-4a	278 m of 750 mm STM sewers on Bayview Ridge and Bayview Ridge Crescent, high capacity inlet at sag location, and ICD on 21 existing CBs
STM3-5	92 m of 450 mm STM sewers on Bayview Avenue and ICD on 16 existing CBs
STM3-6a	226 m of 1200 mm, and 219 m of 1500 mm STM sewer on Tudor Gate and Bayview Avenue, and high capacity inlet at sag location on Bayview Avenue
STM3-7a	200 m of 1200 mm STM sewers on The Bridle Path
STM3-8b	122 m of 1050 mm and 27 m of 1500 mm STM sewers, and high capacity inlet at sag location on Alderbrook Drive. It is noted that STM 3-8b is hydraulically related to STM 4-8b
STM3-9	ICD on 21 existing CBs on Banbury Road and Sonata Crescent
STM3-10c	Do nothing
STM3-11a	113 m of 1050 mm and 217 m of 1200 mm STM sewers on Sagewood Drive and Cosmic Drive
STM3-12	150 m of 2000 mm x 3000 mm STM sewers on Alderbrook Drive
STM3-13	20 m of 450 mm STM sewers and high capacity inlet at sag location on Bridle Heath Gate
STM3-14	50 m of 600 mm, 25 m of 750 mm, and 123 m of 1800 mm STM sewer on Alderbrook Drive
SAN4-1d	316 m of 1650mm inline storage on Banbury Rd, 53 m of 200 mm SAN on Alderbrook Dr, and 346 m 300-375 mm SAN on Lawrence Ave E/ Blaine Dr/Brian Cliff Dr, disconnected shallow pipe running through private properties from Brian Cliff Dr to Blaine Dr
SAN4-2	786 m of 450 mm SAN on Don Mills Rd/Barber Greene Rd
SAN4-3b	2 m of 525 mm SAN on Easement east of Leslie St and 157 m of 1200mm inline storage on Barber Greene Rd
SAN4-4	236 m of 450 mm SAN on Leslie St/Easement
SAN4-5	lower sanitary sewers on Leslie St
STM4-7	174 m of 525 mm STM sewer on Denewood Crescent and Banbury Road and ICD on 3 existing CBs
STM4-8a	83 m of 525mm, 97 m of 600 mm, 90 m of 750 mm and 72 m of 1200 mm STM sewer on Banbury Road
STM4-9	75 m of 450 mm, 84 m of 525 mm, 82 m of 600 mm, 219 m of 750 mm, and 180 m of 900 mm STM sewer on Cheiford Road, Tintarget Road, Wetherfield Place, and Greengate Road
STM4-10b	Inline Storage – 367 m of 2100 mm inline storage on Banbury Road
STM4-11	ICD on 7 existing CBs on Leacroft Crescent
STM4-12c	Inline Storage – 173 m of 2800 mm inline storage on Larkfield Drive. ICD on 5 existing CBs
STM4-13	86 m of 750 mm STM sewers on Kirkdale Crescent
STM4-14a	293 m of 900 mm STM sewers on Malabar Place and Leslie Street, and additional inlet capacity at sag location on Malabar Place
STM4-15	ICD on 10 existing CBs on Brian Cliff Drive
STM4-16b	Inline Storage – 218 m of 900 mm inline storage on The Bridle Path
STM4-17	123 m of 450 mm STM sewers on The Bridle Path
STM4-18a	266 m of 675 mm STM sewers on The Bridle Path
STM4-19	ICD on 10 existing CBs on Saintfield Avenue
STM4-20a	16 m of 450 mm, 140 m of 600 mm and 174 m of 1500 mm STM sewers on Saloica Road
STM4-21b	A 104 m of 900 mm new STM sewer connecting Barber Greene Road to Overland Drive. 49 m of 450 mm, 75 m of 825 mm, 155 m of 900 mm, 110 m of 1050mm, 256 m of 1500 mm, and 209 m of 1800 mm STM sewers on Barber Greene Road and easement at Barber Greene Road and Southhill Drive. ICD on 29 existing CBs on Paperbirch Drive
STM4-22	80 m of 375 mm on Broadpath Road and additional inlet capacity at the sag location on Barber Greene Road STM 4-23: 54m of 600 mm and 66 m of 900 mm STM sewers on Overland Drive. ICDs on 9 CBs on Broadpath Rd
STM4-23	54m of 900 mm and 66 m of 900 mm STM sewers on Overland Drive
STM4-24	428 m of 450 mm STM sewers
STM4-25b	Inline Storage – 166 m of 1350 mm inline storage on Tottenham Road
STM4-26	Lower 92 m of 375 mm STM sewers on Southhill Drive and ICD on 34 existing CBs on Foxden Road, Cottonwood Drive and Southhill Drive
STM4-27	187 m of 450 mm STM sewers on Cottonwood Drive
STM4-28a	87 m of 525 mm, 248 m of 750 mm, 107 m of 900 mm, 132 m of 1050 mm and 91 m of 1200 mm STM sewers, and additional inlet capacity at sag location on Prince Andrew Place
STM4-29	97 m of 750 mm STM sewers on Prince Andrew Place
STM4-30a	187 m of 450 mm, 95 m of 750 mm, 56 m of 900 mm, 181 m of 1050 mm and 474 m of 1200 mm STM sewers on Wren Court, Barber Greene Road, and Don Mills Road
STM4-31	60 m of 600 mm and 59 m of 1050 mm STM sewers on Tottenham Road and Leslie Street
STM4-32	Lower 91 m of 250 mm STM sewers and ICD on 9 existing CBs on Terhill Crescent
STM4-33	Lower 112 m of 450 mm STM sewers on Leslie Street and ICD on 35 existing CBs.

Solutions Map – Projects Outside of Right-of-way

SAN2-1

Description: Sanitary sewer replacement – upsizing along the existing sewer route near the intersection of Bayview Ave and York Mills Rd



Preferred Alternative – affecting Bayview – York Mills Parkette, Toronto EMS – Fire Station 122 (2545 Bayview Ave)



Alternative with works in ROW– 393 m of 2400mm inline Storage on Bayview Ave.

Note: Not Selected



Photos showing the general location of the Preferred Alternative



Alternative with works in ROW– Alternative alignment on Bayview / York Mills Rd

Note: Not Selected

The alternative outside the ROW is selected because:

- The storage alternative is a very large diameter pipe in a major ROW, with constructability and feasibility concerns, in addition to major disruptions.
- The alternate route runs approximately 2m uphill along Bayview Ave towards York Mills Rd, creating extremely deep sewers within a major intersection.
- The preferred alignment is on publicly owned lands, with anticipated minor impacts (temporary disruption to open space and parking areas).

Solutions Map – Projects Outside of Right-of-way

STM4-21

Description: Storm sewer replacement – upsizing along the existing sewer route on the easement across industrial properties south of Barber Greene Rd



Preferred Alternative – 75 Barber Greene Rd, 71 Barber Greene Rd, 68 Prince Andrew Pl., 64 Prince Andrew Pl., and 60 Prince Andrew Pl



Alternative with Different Upsizing and Routing
Note: Not Selected

- There are upsizing and routing alternatives, but no alternatives that removes the need to upsize the storm pipes along the existing route on the easement across industrial properties.
- There is no major outlet (if inlet controls were used), and the storm flows are too large for feasible storage.



Photos showing the general location of the Preferred Alternative

Solutions Map – Projects Outside of Right-of-way

STM4-30

Description: Storm sewer upsizing along an existing easement through industrial and commercial properties west of Don Mills Rd



Preferred Alternative – affecting 55 Barber Greene Rd, 888 Don Mills Rd, 896 Don Mills Rd, 898 Don Mills Rd, 900 Don Mills Rd, 25 Prince Andrew Pl., 23-21 Prince Andrew Pl, and 7-21 Prince Andrew Pl.



Alternative with Inline Storage– 409 m of 3600mm inline storage on Barber Greene Rd and Don Mills Road
Note: Not Selected

The alternative outside the ROW is selected because:

- The alternative with Inline Storage may not be constructible (diameter is large and partially along a major road – Don Mills Rd).
- The alternative with Inline Storage is very costly.



Photos showing the general location of the Preferred Alternative